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TECHNICAL REPORT

Assembly recommendations
for the cylinder head gasket
55013000



PURPOSE

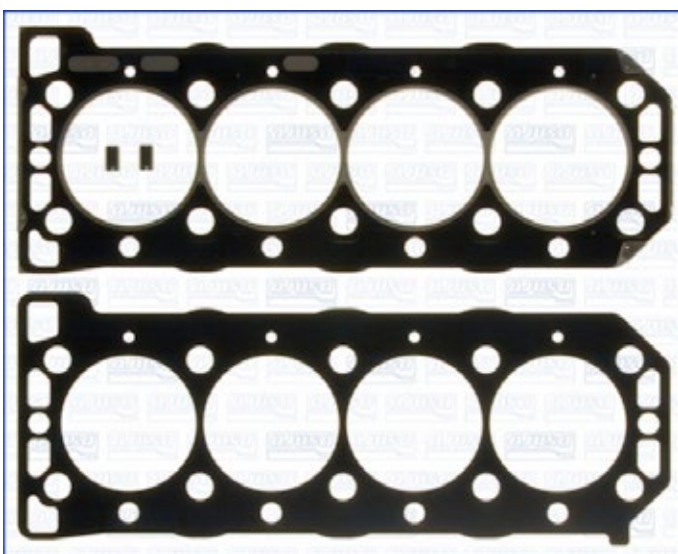
Advices to replace the cylinder head gasket.

INTRODUCTION

The Land Rover Brand, in 18K16 and 18K4F engines, began to supply a Metal-Elastomer cylinder head gasket, 10071400, **which was later replaced by a MLS steel multilayer gasket, 5501300.**

This reference number, **55013000**, includes:

- MLS head Gasket
- Adjustment plate
- 2 centering bushes



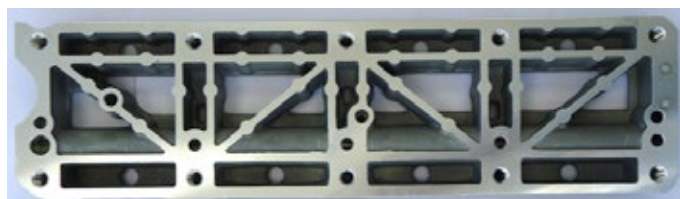
The **adjustment blade** (Shim), must be positioned above the cylinder head gasket as we show in the following figure:



In addition of the design change in the head gasket, when such a cylinder head gasket is requested, Land Rover also recommends replacing one oil rail located in the lower part of the engine block

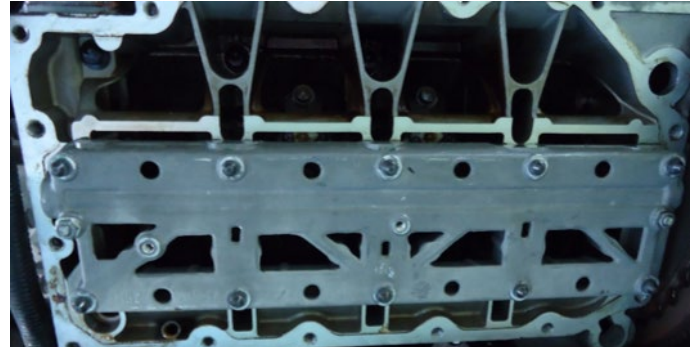
This oil rail which OE part number is LCN000140L, has 2 main functions:

- Distribute the engine oil between the cylinder head (1)
- Contains the threaded holes where we can screw the cylinder head bolts (2)



The fact that in this part where the screws are screwed is not common, since in almost all the motors are usually threaded directly in the motor block. For this reason, **the screws of these motors have a large length** to cross the entire motor block, and end in a small threaded area.





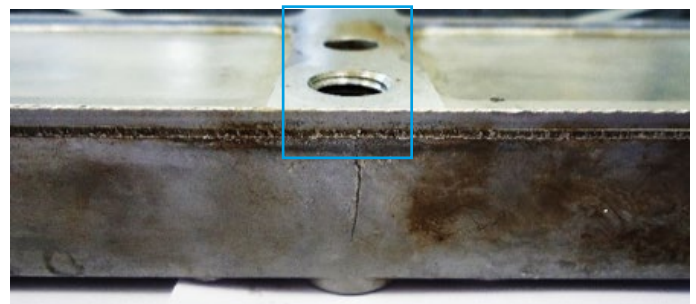
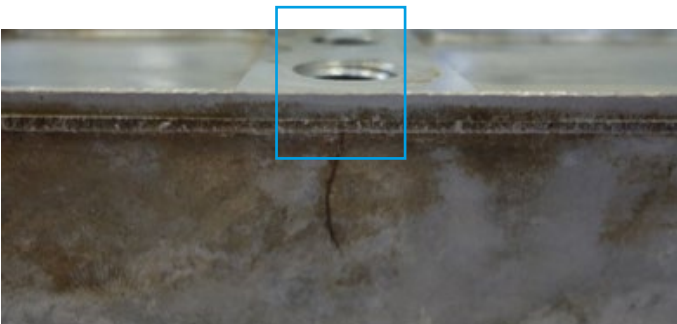
The reason that Land Rover recommends replacing the oil duct when ordering the cylinder head gasket, it's not specific.

However, after observing the characteristics of this component and its interaction with the cylinder head bolts, we can affirm the following:

- 1) Reduced threaded area.
- 2) The manufactured material is an aluminum alloy with a low hardness.

For these characteristics, it is possible that when the head gasket is replaced, the screw housing is not in the best conditions, and **may even be fractured**, and the necessary tightening is not achieved to ensure leak tightness.

In the following pictures we can see an oil duct after normal tightening, in **which cracks have appeared in the zones of greater tension**, which are the screw steps



For this reason, when **replacing this oil rail when we perform the head gasket repair**, we will ensure the perfect condition of the bolt housing and with that correct tightening of the cylinder head bolts.